FOREIGN ANIMAL
DISEASES REPORT

OCTOBER-NOVEMBER 1973

EXOTIC NEWCASTLE DISEASE ACTIVITIES REPORT

On September 19, 1973, the virus of exotic Newcastle disease was isolated from a shipment of 25 gamecocks from Martinique which was undergoing quarantine at the USDA Clifton Animal Import Center. On September 14, 1973, preliminary laboratory work revealed the presence of a Newcastle disease virus. As a result, on September 15, 1973, the infected birds were destroyed and the holding facilities were cleaned and disinfected. Between the time the chickens arrived at Clifton on August 29 and the date the disease was diagnosed, seven lots of mixed species moved to their State of destination. As a precautionary measure, all of these movements were placed under local quarantine for surveillance and testing to determine their status. For the time being, shipments of imported birds to the Clifton Animal Import Center have been discontinued. Other birds at the facility are currently being held for an additional quarantine period for surveillance and testing. All birds being held under surveillance have remained negative for Newcastle disease.

On September 24, 1973, exotic Newcastle disease was diagnosed in baby chicks submitted from a farm in Tennessee. These chicks were hatched at a Somerset, Kentucky, hatchery from eggs which were imported from Hungary. Of the 27,541 eggs which were imported, 14,632 hatched. In the process of selecting the desired male and female bloodlines 7,898 of the chicks were euthanized at the hatchery. The 6,734 chicks which remained were moved to a farm near Adams in Montgomery County, Tennessee. After more than 2,500 of the 6,734 chicks died, the remainder was euthanized by the owner and the facilities were cleaned and disinfected. Tracings indicate that three shipments of pullets housed on another part of the farm had been moved to three different farms in Kentucky. Tracings from the Somerset, Kentucky, hatchery indicate that since the eggs from Hungary arrived at the hatchery, four shipments of chicks went to farms in Tennessee, and three shipments went to farms in northern Georgia. Two shipments went to two poultry farms, and approximately 28 sales were made to backyard flock owners in Kentucky. On September 27, 1973, all eggs and chicks at the Somerset hatchery were destroyed with indemnity payment to the owner. The

premises were subsequently cleaned and disinfected. All of the farms receiving poultry from the Somerset, Kentucky, hatchery and the Adams, Tennessee, farm have been placed under quarantine and intensive surveillance. This surveillance has included taking tracheal and cloacal swabs of 5 percent of the birds in the flock, dead bird pick-up, inspections, and serological tests. As of October 31, 1973, three rounds of swabbing have been completed, and laboratory tests and other diagnostic procedures have remained negative.

As a result of the outbreak associated with imported hatching eggs, all birds hatched from imported eggs for the period July 1, 1973, to September 30, 1973, have been placed under surveillance. At this time, no permits for the importation of hatching eggs are being issued except from Canada.

Also on September 24, 1973, in an unrelated outbreak, exotic Newcastle disease was diagnosed in a parrot from a Nashville, Tennessee, pet shop. The remaining birds in this pet shop were immediately destroyed with indemnification to the owner. The premises was cleaned and disinfected and the quarantine was released on October 26, 1973. An intensive survey of pet bird dealers and owners in the Nashville, Tennessee, area has been conducted with no evidence of exotic Newcastle disease being revealed.

On October 4, 1973, a Newcastle Disease Emergency Organization was established in Brentwood, Tennessee, which is in the Nashville area, to coordinate the surveillance, inspections, investigations, and other activities involving possible exposed flocks under surveillance in Kentucky, Tennessee, and Georgia.

On October 9, 1973, exotic Newcastle disease was confirmed in a parrot that was being imported into the United States under the personally owned pet bird provision of the regulations. On September 29, 1973, this bird entered a facility at the JFK Airport, New York. It died on September 30, 1973, and was submitted to the laboratory on October 1, 1973. Possibly exposed birds have at this time been destroyed or placed under quarantine and surveillance with no evidence of exotic Newcastle disease being revealed.

During the period September 1, 1973, to October 31, 1973, there were no positive cases of exotic Newcastle disease in southern California. Laboratory tests of dead birds submitted weekly from commercial egg-laying flocks is a highly reliable means of flock surveillance. During the period of September 15, 1973, through October 31, 1973, four southern California Counties were under this form of surveillance. The Counties of Los Angeles and Ventura had 100 percent participation and Riverside and San Bernardino Counties had 96 and 94 percent coverage respectively.

In addition to the surveillance of the commercial egg-laying flocks, a backyard flock surveillance program covering the six Countis of San Diego, Ventura, Orange, Los Angeles, San Bernardino, and Riverside is in progress. The surveillance of the backyard flock population in these six Counties is comprised of two categories: (1) A biased sample from diagnostic calls and local surveys in the immediate vicinity of previously infected VVND flocks; and (2) A randomly selected, stratified sample survey conducted over a 6-week period.

The overall basis of the surveillance program, particulary the random-sample survey portion, was decided through consultation with a biostatistician from the University of California at Davis. Essentially, the survey was designed to have a 99 percent probability of detecting the presence of viscerotropic velogenic Newcastle disease virus at less than one half of one percent or greater level. The random-sample survey was implemented in the field as a 5 percent sample of the backyard flock population; i.e., one flock out of twenty from each stratified area was sampled. The actual sample taken frequently exceeded the 5 percent level and in a few geographical areas in Los Angeles County was increased to the 10 percent level.

The surveillance procedure used on the individual flock selected was: (1) obtaining history through completion of the survey form, (2) collection of blood samples for serological testing by the hemagglutination-inhibition test, and (3) collection of tracheal and cloacal swabs inoculated into broth-heart-infusion tubes for virus isolation attempts. Swabs were pooled (five swabs per broth-heart-infusion tube).

The number of birds bled and swabbed within each selected flock varied with the flock size. In general, those flocks with 15 or fewer eligible birds were sampled in their entirety or as many eligible birds as were available were sampled. In flocks with more than 15 eligible birds, at least 15 birds or as many as were available were sampled. Eligible birds consisted primarily of the chicken and turkey species old enough to bleed and swab. Some ducks, geese, and pigeons were also sampled. Since the degree of confinement of the backyard flock birds varied tremendously, the numbers of birds available for sampling varied also.

Final results are not as yet completed. However, of the samples presently completed, all have been negative for exotic Newcastle disease. The hemagglutination-inhibition test results revealed no suspicious titers for VVND infection. Final compilation of the survey results will be completed in mid-November.

Nationwide Exotic Newcastle Surveillance

A nationwide surveillance program to detect possible outbreaks of exotic Newcastle disease has been developed. The program was formulated by our regional poultry epidemiologists, veterinary medical officers with poultry diagnostic training, and members of the Emergency Programs and Programs Development and Application Staffs. This program has been approved and is now operational. The regional poultry epidemiologist will be the key man, helping veterinary medical officers set up systems of surveillance and investigation to check all suspected cases of Newcastle or other exotic poultry diseases. The poultry diagnostician will have the major responsibility for developing and maintaining the surveillance system in his State. He will work with all segments of the poultry industry to get reliable and prompt information on all poultry diseases outbreaks. All suspicious cases will be tested in the laboratory.

Exotic Newcastle Disease Notes

Dr. John W. Walker, Senior Staff Veterinarian, Poultry Diseases Staff, Hyattsville,

Maryland, traveled to Munich, Germany, September 2, 1973, to speak at the 5th International Congress of the World Veterinary Poultry Association. His topic was "Exotic Newcastle Disease Eradication in the United States". Before returning to the United States, he visited the Fanar Regional Poultry Laboratory, Lebanon, in connection with a proposal from the Lebanese to carry out epizootiological studies on viscerotropic velogenic Newcastle disease virus under local conditions. This is a PL 480 Project.

USDA Quarantine Actions and Regulation Changes

The U.S. Department of Agriculture has adopted quarantine regulations covering commercial bird imports, banned since August of 1972, as part of the effort to keep exotic Newcastle disease from entering the country and infecting U.S. poultry.

The new regulations of USDA's Animal and Plant Health Inspection Service became effective October 30, 1973, and provided a system of quarantines and health inspections for commercial imports of birds other than poultry. Poultry and personally-owned pet birds are already covered by import regulations. Under the new regulations, commercial lots of birds brought into the United States must be held for a minimum period of 30 days in quarantine facilities furnished by the importer under Veterinary Services Supervision. While in quarantine, the birds will be inspected and undergo further examination and testing as needed to make sure they are free of exotic Newcastle or other infectious diseases.

The quarantine facilities will be located near one of 14 United States ports-of-entry approved by the Animal and Plant Health Inspection Service for bird imports. The ports are: Boston, New York, Miami, Tampa, New Orleans, Honolulu, Seattle, Chicago, Detroit, Los Angeles, San Francisco, San Ysidro (Calif.), and El Paso and Brownsville, (Tex.).

Before shipment, the birds must be inspected and certified healthy by a veterinarian of the exporting Nation. On arrival at the United States port, they must be examined by an Animal and Plant Health Inspection Service veterinarian before entering quarantine. Birds in each lot must enter and leave the quarantine facility at the same time. Also, each bird in the lot must be individually identified by some method such as a numbered tattoo or leg band.

In addition, specific standards for importers to follow in establishing quarantine facilities were issued. The standards cover construction, operation, and maintenance requirements of the facility.

On September 21, 1973, the quarantines on one premises in Riverside and one premises in San Diego Counties, California were released. Only one premises in Riverside County, California, then remained under State and Federal quarantines. This premises was released on November 3, 1973.

VVND IN CANADA

The Health of Animals Branch, Canada Department of Agriculture, reports two cases of viscerotropic velogenic Newcastle disease were confirmed in Simco County, Ontario Province, the last of July 1973. The two outbreaks occurred in six-week old chickens which were purchased at one day of age. On July 26, 1973, both flocks were slaughtered and buried. Source of infection has not yet been determined. An area consisting of a five mile radius of the premises is under surveillance. Weekly inspections of flocks are carried out in the surveillance area.

HOG CHOLERA ACTIVITIES

It has been over 4 months since hog cholera was last diagnosed in the United States with the last outbreak occurring on June 28, 1973. During the same 4-month period last year, there were 8 cases reported in July, 25 in August, 54 in September, and 33 in October, for a total of 120 positive cases. This is the first time since the inception of the program that more than 2 consecutive months have elapsed without a case of hog cholera.

Quarantines: No quarantines for hog cholera are in effect in the continental United States; however, the entire Commonwealth of Puerto Rico remains under quarantine.

Program Phase Status (See Phase Map in August FAD Report): All 50 States are now in Phase IV, 46 of which are considered Hog Cholera Free. The State of Virginia returned to Free status and Texas returned to Phase IV status during July 1973. Six States which had lost Free status during FY 1973 because of hog cholera have now regained that status.

Epidemiology: During FY 1973, movement and marketing of swine continued to be a major problem. Movement of swine within States accounted for 15 percent of the cases reported and swine movement from State to State accounted for 8 percent. Area or neighborhood spread accounted for 39 percent of the cases during FY 1973.

The feeding of raw or improperly cooked garbage was responsible for 21 percent of the cases reported during FY 1973 and the source of 17 percent of the cases reported was not established. As the disease incidence decreases, a greater proportion of the cases diagnosed are of a chronic, longstanding nature, making epidemiology more obscure and challenging. Despite this, the ability to determine the means of spread of hog cholera has continued at a high level.

RECENT INTRODUCTION OF AN ECTOPARASITIC FLY INTO NORTH AMERICA

In late 1972, a Behavioral Biologist working with cheetahs in the San Diego Zoo noted unfamiliar flies associated with the animals. Further investigation revealed that these flies, whose scientific name is Hippobosca longipennis, are native to Africa and have never been previously reported from the North American Hemisphere. Subsequent inquiries uncovered the presence of these ectoparasites

on cheetahs at Lion Country Safari, Grand Prairie, Texas; Lion Country Safari, Stockbridge, Georgia; and World-Wide Safari at Winston, Oregon.

These insects, commonly known as louse flies, hippoboscid flies, or in Africa, dogflies, are external parasites primarily of cheetahs. They have also been observed as ectoparasites of the families Canidae (Vulpes and Canis); Viverridae (Viverra); Hyaenidae (Crocuta and Hyaena); and Felidae (Felix, Panthera, and Acinonyx). In Africa, the flies are severe pests of domestic dogs. The adult flies, which are larger than common house flies, suck the blood of their hosts. Individuals who have been bitten compare its severity to the sting of a wasp. The flies remain hidden in the fur of their host, particularly on the under side, but will fly away for brief periods when disturbed. This covert habit makes it difficult to estimate the degree of infestation, but as many as 180 flies have been taken from a single adult cheetah, undoubtedly causing great irritation. Unlike most insects, which lay eggs, the female louse fly gives birth to larvae which are nearly full grown and ready to pupate. The larva is deposited on the soil, on low vegetation, or in cracks and it then pupates within a short time. Depending on climatic conditions and other environmental factors, the adult emerges from the puparium after about three weeks and seeks a suitable host. The maximum adult longevity is probably no more than four months. Unfortunately, specific data on the biology of the louse fly in North America are unavailable. Although this species of louse fly has not yet been incriminated as a vector of any specific animal disease organism, this potential should not be overlooked. Furthermore, the parasite burden imposed by louse flies seems to be severe and is certainly detrimental to the total health of the host animal.

Officials in each State where introductions of the louse fly are known to have occurred, have initiated eradication measures and are maintaining surveillance to assure that eradication has been achieved. This example of an exotic ectoparasite being introduced into North America should serve to increase our viligance in preventing such occurrences in the future.

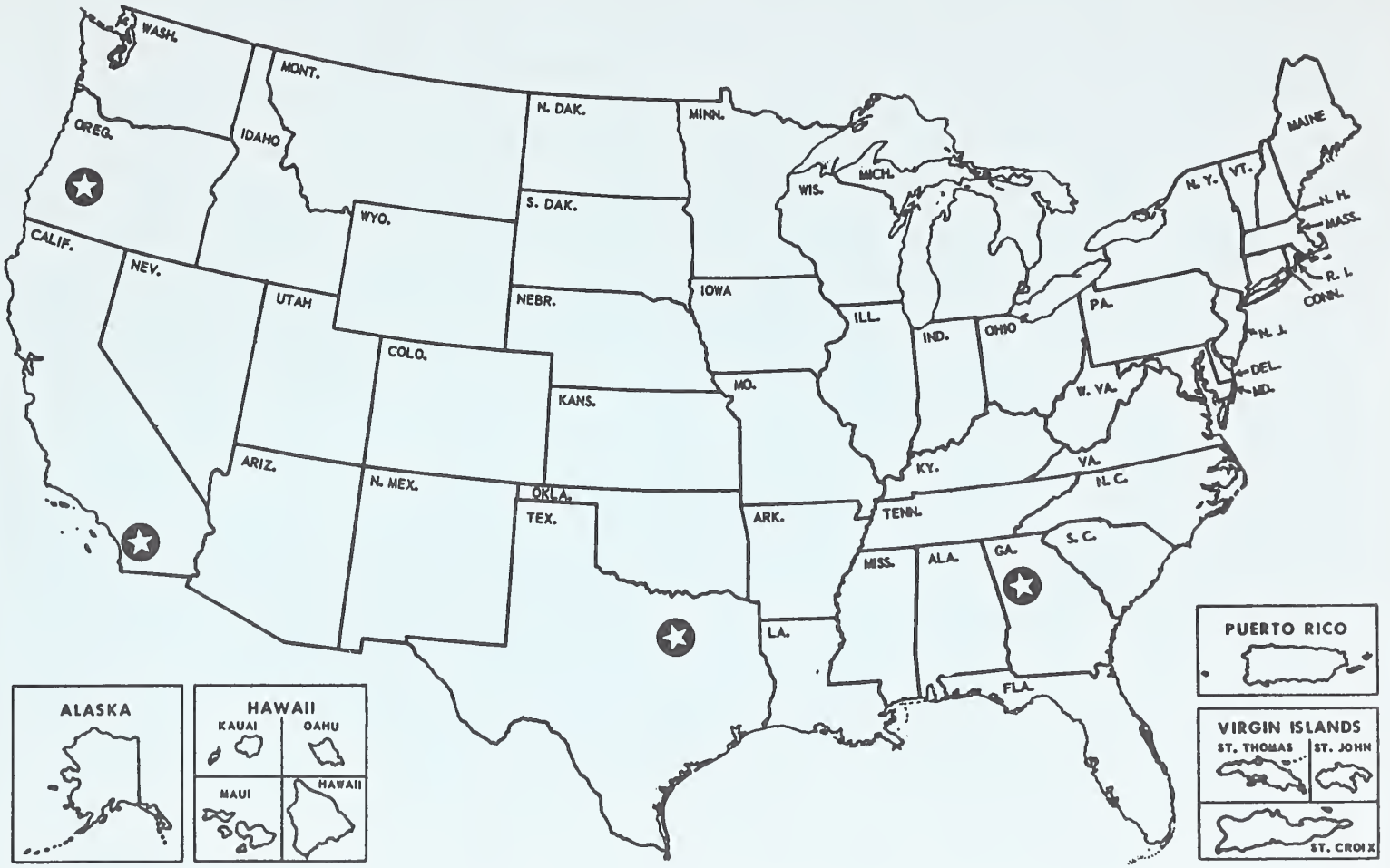
Frequently, when an exotic pest invades a new geographical region, it spreads rapidly and becomes a more serious pest than in its original endemic area. It is impossible to know whether atypical hosts will be selected by the exotic pest in its new environment. Particular attention should be paid to wild animals imported for display purposes. If ectoparasites are detected on these specimens, they should be collected and immediately forwarded to a specialist for identification. With proper precautions, exotic ectoparasites, which could endanger our endemic fauna, can be excluded or eradicated before they become established.

EQUINE ENCEPHALITIS

During the 1973 equine encephalitis season, investigations were made of 705 suspected equine encephalitis cases. Of this number, 116 were positive either serologically or by virus isolation for Western equine encephalitis (WEE), and 188 for Eastern equine encephalitis (EEE).

WEE was found in the States of Arizona, Colorado, Idaho, Illinois, Indiana,

RECENT NORTH AMERICAN INTRODUCTIONS OF THE LOUSE FLY, *Hippobosca longipennis*



Iowa, Kansas, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Washington, Wyoming; EEE was found in the States of Alabama, Delaware, Florida, Georgia, Indiana, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, New Hampshire, New Jersey, North Carolina, Oklahoma, Rhode Island, South Carolina, Texas, Vermont and Virginia. Please note that the States of Indiana, Minnesota, Oklahoma and Texas had both EEE and WEE. Venezuelan equine encephalitis (VEE) has not been diagnosed in the United States since November, 1971 and has not been reported in Mexico during 1973.

Collections of mosquitoes along the Mexican border revealed the presence of WEE virus in the mosquito population, but no evidence of VEE. The collection of mosquitoes ceased October 31, 1973, and will resume April 1, 1974.

The "Reported Arthropod-Borne Encephalitides in Horses and other Equidae" report for calendar year 1972 is now available for distribution. Copies may be obtained by requesting them from the USDA, Veterinary Services, Animal and Plant Health Inspection Service, Hyattsville, Maryland 20782.

VESICULAR INVESTIGATIONS

During the period of September 25, 1972, to October 20, 1973, 84 suspicious vesicular investigations were made in the United States. Five of these cases were positive for vesicular stomatitis. The last positive case of vesicular stomatitis prior to this reporting period was investigated on August 31, 1973, and occurred in an equine in Colorado.

WORLD DISEASE REPORTS*

Foot-and-Mouth Disease

Country	Date 1973	New Outbreaks	Country	Date 1973	New Outbreaks
Argentina	June-July 15	281	Iraq	May 16-July 31	122
Austria	July 20-Aug. 26	8	Kenya	June	11
Brazil	June 2-29	810	Lebanon	June	9
Columbia	July	7	Rhodesia	June	1
Egypt	July 16-31	2	Spain	May	15
Hong Kong	June	4	Tanzania	April-May	2
India	April	78	Turkey	June	293
Indonesia	May-June	346	U.S.S.R.	May-July	169
Iran	June-July	295	Zambia	June-July	6

Turkey: Strict sanitary measures applied. Ring vaccination in progress around the infected area with vaccine recently produced by S.A.P. Institute, Ankara.

Rinderpest

India	May	14	Mauritania	Jan.-May	4
Lebanon	June	2			

Contagious Bovine Pleuropneumonia

Dahomey	March-May	1	Niger	Feb.-June	1
Mali	Jan.-April	14	Sierra Leone	July	1
Mauritania	Jan.-May	1			

Lumpy Skin Disease

Madagascar	April-May	8	South Africa	April-May	12
Rhodesia	June	1			

Sheep Pox

Egypt	July	5	Israel	Feb.-April	2
India	April	13	Kenya	March-June	1
Iran	June-July	32	Senegal	April-May	3
Iraq	May-July	135	Turkey	June	41

African Horse Sickness

Lesotho reported 1 case of the disease which occurred during April and May.

Dourine

South Africa reported 3 cases of the disease which occurred during April and May.

African Swine Fever

Portugal	July	14	South Africa	July	2
Senegal	May	3	Spain	July 1-15	20

Teschen Disease

Czechoslovakia	June	1	Madagascar	April-May	17

(*Adapted from International Office of Epizootics Monthly Circular #320).

VESICULAR DISEASES IN THE WESTERN HEMISPHERE*

Country	Period 1973	Foot-and-Mouth Disease O	A	C	Vesicular Stomatitis N.J.	Ind.
Argentina	May 1-15	80	10	-	-	-
Bolivia	May	-	5	-	-	-
Brazil	April 21-June 15	81	93	227	-	-
Columbia	June	2	1	-	7	1
Costa Rica	June	-	-	-	1	-
Ecuador	June 1-July 15	24	-	-	-	-
El Salvador	June-July	1	-	-	10	-
Guatemala	June-July	-	-	-	6	-
Paraguay	June 16-30	-	1	-	-	-
Peru	June	1	3	-	-	-
Venezuela	May-June	3	1	-	4	2

(*Adapted from Pan American Foot-and-Mouth Disease Center, Epidemiological Report Volume 5, No.'s 11-14).

FOREIGN ANIMAL DISEASES TRAINING COURSE

A foreign animal diseases training course was held at Ames, Iowa, Sept. 5-14, 1973. From Sept. 15-21, the group continued the training at Plum Island, N.Y. The course is designed to orient the participants in the diagnosis of foreign animal diseases. The program provides information on the clinical symptoms and gross pathology produced by the diseases, provides information on laboratory tests used to confirm diagnosis, provides information about current research being carried out on these diseases, and stimulates the participants' interest in keeping current on foreign animal diseases.

The training sessions were attended by eleven Federal veterinarians, one State veterinarian, and one veterinarian from the U.S. Department of Defense.

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